

## REMARKS

### Amendments to the Claims

The claims have been amended to cure minor informalities noted when the claims were reviewed in preparation for this response and also to clarify the intended meaning of certain claim language, in particular the manner in which the first property of the bank note as derived from a first measurement is refined by comparing data obtained from a correlation between the first and a second property and the data obtained from the first measuring and using the result of the comparison to obtain an improved indication of the first property. Applicant submits that this meaning was clear to a person of ordinary skill in the art reading the claims in their previous form in view of the written description and drawings, but independent claims 1 and 9 have been amended to recite this relationship more clearly to further differentiate the subject matter recited in the claims over any possible interpretation of the disclosures contained in the prior art of record.

Full support is found within the specification and drawings for the amendments to the claims, in particular the descriptive text in paragraphs [0028] to [0033].

The amendments to the dependent claims for the most part are intended to provide needed antecedent language, cure grammatical informalities, improve the grammar or attend to other minor informalities noted during a review of the claims. The basis for the amendments is believed to be self-evident from a review of the various amendments.

### Amendments to the Specification

Paragraph [0008] has been amended to improve the grammar of the paragraph. A typographical error has been corrected in paragraph [0034].

### Informalities in Office Action

Applicant notes that the examiner indicates in Form PTOL-326 "Office Action Summary" that the Action is responsive to Applicant's communication filed 27 October 2005. In fact, it is believed that the examiner intended to indicate that the Action is responsive to Applicant's communication filed September 26, 2008.

Form PTOL-326 also indicates that the Action is both final and non-final. Applicant assumes that the Action is non-final based on a review of the identification of the Action as

non-final in the record of this application as shown in the Patent Application Information Retrieval system of the Office with regard to this application.

Claim Rejections – 35 U.S.C. §103

The examiner essentially repeats the rejection of claims 1-4, 6, 8-12, 14 and 16 that was expressed in the first Action dated June 27, 2008, with the additional citation of Rhoades (U.S. 6,636,615) and Fontenot (U.S. 4,697,650).

Applicant's response to the first Action discussed in detail the scope of the invention intended to be protected by the claims under consideration and it will be noted by the examiner that claims 1 and 9 in this paper have been further amended to make it clear, as recited in the last paragraph of each claim, how the recited process provides a better indication of the first property obtained by the first sensor (131) by comparing data obtained from the correlation recited in the claim with data obtained from the first measuring and then using the result of the comparison to obtain an improved indication of the first property of the bank note. As explained in the written description and the drawings, this final step occurs in steps 70 and 80 of Figure 2. The result is illustrated at 81 where, as described in paragraph [0032], the inaccurate information obtained by the first sensor indicated at 131 is cleaned up by removing information obtained from the first correlation indicated at 61 to thereby result in a more accurate derivation of the first property of the bank note, in this example a soiling condition of the bank note.

None of the prior art considered individually or collectively establishes obviousness under 35 USC §103(a) of the claimed subject matter because nowhere within the documents is there remotely disclosed, taught or suggested the steps recited in claims 1 and 9 for improving the derivation of a measurement of a bank note property by using a correlation made between other properties for the same places on the bank note that provided the data for the first property, and then comparing the result of the correlation with the initial measurement of the first property to improve the derivation of the first property.

The prior art nowhere remotely is concerned with the recited process of obtaining a more accurate derivation of a first property of a bank note by utilizing a correlation step involving measurement of other bank note properties and then a final comparison step enabling the "noise" or inaccuracies in the first property measurement to be cleaned up and presented in a clearer form devoid of the extraneous factors picked up by the first measurement.

In the example provided in Figure 2, the measurement of soiling taken by the first sensor at 131 included information other than soiling, for example a tear, a hole, a defective spot, etc. This is so because the sensor providing the information indicative of soiling could not distinguish between actual soiling and the other defects such as tears, holes, folded corners, adhesive tape, etc.

To provide a better indication of actual soiling, other sensors obtained information indicative of other properties of the bank note such as a hole, a tear and dog ears (folded corners) as shown at 132, and possibly other properties as shown at 133 and 133'. A composite view of these other properties is obtained by a correlation process as indicated at 50 to produce a derived second property of the bank note as shown at 61. Notably, 61 does not reflect soiling of the bank note as such a measurement was not taken by the sensors producing the data leading up to the derived second property.

As recited in the last paragraph of claims 1 and 9, the derived second property resulting from the correlation step is compared with the data obtained by the first sensor intend to reflect a soiled condition of the bank note which enables the central controller (35 in Figure 1) to "remove" the derived second property characteristics from the preliminary soiling condition characteristics at step 70 in Figure 2, thereby producing an improved indication of the soiling condition of the bank note as indicated at 81. In claim language, an altered derivation of the first property (soiling) is effected from the data of the at least first measuring by comparing data obtained from the correlation between the first and at least second property (61) with the data obtained from the first measuring (131) and using the result of the comparison to obtain an improved indication of the first property (81).

Comparing the claimed subject process and apparatus as recited in claims 1 and 9 with the cited prior art of record, it is clear that the claimed subject matter cannot be regarded as obvious to a person of ordinary skill in the art as there is lacking a *prima facie* showing that the prior art evidences such obviousness.

Beginning with Mennie, which the examiner cites as the basic reference, a method and apparatus is disclosed for sensing various physical parameters associated with a bank note moving through a currency processing machine, including detecting a border of the printed area of the moving bank note, and image data taken from the moving bank note. The data are compared with reference data stored in an electronic computer memory to determine whether the data compares favorably or not with known characteristic data. Nowhere within the disclosure of Mennie is there indicated any process or apparatus whereby a first property

of the banknote is determined and then the property is later modified by a correlation derived between the first property and at least one other property for the same place on the bank note to provide combined data related to the first and second properties, followed by a refinement of the first property in the manner recited in the last paragraphs of claims 1 and 9.

Ratterman is not seen to provide the teaching missing in Mennie with regard to the claimed subject matter and, indeed, the examiner's point with regard to Ratterman is lost on Applicant's attorney. The examiner is invited to more specifically indicate the relevancy of the Ratterman patent with regard to the claims currently presented for consideration.

The examiner contends that Allan discloses "altering the derivation of the first property from the data of the first measuring, for the purpose of preventing fraud." From this, the examiner concludes that it would have been obvious to one of ordinary skill in the art to have "added the self-correcting anti-fraud feature to Mennie's bill validating apparatus, as taught by Allan, for the purpose of correlating the output from several bill sensors and therefore alter a derived property...".

The examiner's conclusion in Applicant's view stretches any possible interpretation of Allan far beyond its actual disclosure. As explained in Applicant's response to the prior Action, the method described in Figure 11 of Allan is simply a process to update the "mean" in step 204, as a process of "self tuning" (see column 11, line 46) to adjust the measurement of boundaries. Allan is concerned with taking into account different Mahalanobis distances measured for different groups of coins, some of which have a higher frequency of occurrence than others (column 2, lines 15-41). Specifically, the mean vector  $M_j$  for a coin may be varied to take into account coins having a high probability of corresponding to the coin type concerned (column 11, lines 34-67; column 12, lines 1-23).

Applicant fails to understand the examiner's contention that somehow the process disclosed in Allan with regard to varying coin populations and statistical analysis involving determination of Mahalanobis distances could somehow be regarded by a person of ordinary skill in the art as a teaching that the apparatus and process of Mennie could be modified in some way to arrive at the process and apparatus recited in claims 1 and 9 currently presented for the examiner's consideration.

It is respectfully submitted that it is incumbent upon the examiner to inform Applicant in a concise, clear manner precisely how the recited claims 1 and 9 could be obvious, including how Mennie could be modified in accordance with the teachings of Allan or by taking into account the general knowledge of a person skilled in the art using common sense

and technical principles to arrive at the apparatus and method claimed by Applicant in claims 1 and 9.

Mennie is unconcerned whatsoever with statistical analysis of data obtained by measurements of the kind described in Allan involving Mahalanobis distances and it is not seen how any of the disclosure recited in Allan could be utilized in the process and apparatus described in Mennie. More particularly, Applicant fails to be informed as to how Mennie and Allan together establish obviousness of the recited steps of claim 1 and the recited apparatus of claim 9 whereby a first property of a bank note is derived from a first measuring; a second property is derived from a second measuring; the correlation is derived between the first property and the second property for the same places on the bank note to provide combined data related to the first and second properties; and further where the first property is derived once again in a more refined manner by comparing the data obtained from the correlation step with the data obtained from the first measuring. Again, Applicant respectfully requests the examiner to point out how the skilled person would modify Mennie in accordance with Allan to establish obviousness of the claimed subject matter under 35 USC §103(a).

In this Action, the examiner introduces Rhoads and Fontenot as further evidence of obviousness of the claimed subject matter Rhoads is cited to show "use of watermarks with specific locations and more than two properties at each location" and Fontenot is characterized by the examiner as "discloses the well-known technique of correlating two different properties at a particular location of an item in order to ensure accuracy of measurement and thus increasing the likelihood of a valid analysis of said data."

Applicant fails to understand the relevancy of Rhoads and Fontenot with regard to Applicant's method and apparatus claims 1 and 9. Rhoads is unconcerned with improving a derivation of a first property as recited in the claims and likewise Fontenot contains no disclosure whatsoever of refining a first derived property in the manner recited in claims 1 and 9.

Rhoads is concerned with taking into account the effect of wear on a watermark used to differentiate an original document from a copy. In accordance with the disclosed process, multiple watermarks are used so that the effect of wear on the two watermarks can be taken into account by the scanning apparatus to distinguish an original from a copy of the document. It can hardly be said that the process described in Rhoads is concerned with refining a property of the document resulting from the first measurement by a series of steps as recited in claim 1 of this application or by using apparatus as recited in claim 9 of this

application. Applicant fails to understand how the teachings of Rhoads establish obviousness in the manner contended by the examiner when considered with Mennie.

Similarly, the examiner's point with regard to Fontenot escapes Applicant. It is not understood how the teachings of Fontenot establish obviousness of the claimed subject matter in this application when considered with the teachings of Mennie and the other references of record.

Fontenot is concerned with estimating the value of a parameter of a formation through which a bore hole in the earth is being drilled by reference to other information obtained by other drillings in the area. The relevancy of this teaching with regard to accurately determining a first property of a bank note is not seen and it is respectfully submitted that such relevancy has not been established by the examiner. Nothing within Fontenot expresses any concern with modifying a first property of a document such as a bank note by a procedure involving a correlation of the kind recited in claims 1 and 9 under consideration. If the examiner intends to continue relying on Fontenot to establish obviousness of the claimed subject matter, Applicant requests that the examiner inform Applicant of the relevancy of Fontenot in a manner that can be understood.

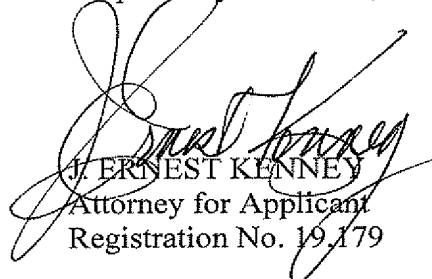
It is respectfully submitted that dependent claims 2-8 are patentable at least on the basis of the patentability of claim 1 from which they depend and claims 10-16 are patentable at least on the basis of the patentability of claim 9 from which they depend, for reasons set forth above with regard to the patentability of claims 1 and 9.

Moreover, Applicant submits that the examiner has failed to establish a *prima facie* basis for rejecting the dependent claims on grounds of obviousness and further that the dependent claims recite further embodiments of the invention that are patentable in their own right, when considered as a whole.

The application having been placed fully in condition for allowance, its passage to issue is respectfully requested.

BACON & THOMAS, PLLC  
625 Slaters Lane, 4<sup>th</sup> Floor  
Alexandria, VA 22314-1176  
Phone: (703) 683-0500  
Facsimile: (703) 683-1080  
Date: April 6, 2009

Respectfully submitted,

  
J. ERNEST KENNEY  
Attorney for Applicant  
Registration No. 19,179